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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,409	06/30/2003	Steven M. Fischer	10010632-3	1968
22878 7590 12/10/2009 AGILENT TECHNOLOGIES INC. INTELLECTUAL PROPERTY ADMINISTRATION,LEGAL DEPT. MS BLDG. E P.O. BOX 7599 LOVELAND, CO 80537				
EXAMINER TUNG, JOYCE				
ART UNIT 1637		PAPER NUMBER		
NOTIFICATION DATE 12/10/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPOPS.LEGAL@agilent.com

# Office Action Summary

**Application No.**

10/611,409

**Applicant(s)**

FISCHER, STEVEN M.

**Examiner**

Joyce Tung

**Art Unit**

1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-34 and 42-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-34 and 42-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

The response filed 7/14/09 to the Office action has been entered. Claims 21-34 and 42-44 are pending.

1. Claims 21-28, 31, 33-34 and 42-43 remain rejected under 35 U.S.C. 102(b) as being anticipated by Schmidt et al. (WO 99/02728, issued January 21, 1999).

Schmidt et al. disclose that in one arrangement, a series of DNA fragments is provided by contacting a template in the presence of DNA polymerase with a mixture of nucleotides sufficient for hybridizing to the template for forming a second strand of DNA complementary to the template. The mixture comprises a set of four probes containing all four nucleotides for hybridizing to the template in which the nucleotides of each probe comprise a modified nucleotide, which is capable of polymerizing to the second strand of DNA, but blocked to prevent further polymerization and which is cleavably attached to the mass label. The mass label is identified by mass spectrometry of the modified nucleotide (see pg. 3, paragraph 5 and pg. 4, paragraph 1). The mass label corresponds to a modified nucleotide so that the nucleotide present in the target template may be deduced (See pg. Paragraph 4). The cleavage is done by photolysis or chemical cleavage (see pg. 12, paragraph 2, pg. 13, paragraph 2, pg. 46, and paragraph 4). Ligating is also used to produce extended products (see pg. 12, paragraphs 1 and 3). The cleavable tag is a 3' cleavable tag (see pg. 46, paragraph 5, fig. 4a and fig. 13) in which the cleavable tag is attached to the 3' end.

Schmidt et al. also disclose an alternative implementation to use photolysable mass labels at the 3'-OH of each 4-mer oligonucleotide. The mass-label could be attached to another part of the molecule from which it can be released independently of the uncapping reaction of the

3' terminus (see pg. 46, paragraphs 4 and 5). This inherently teaches that 3' tag is cleaved from an extension product and not bound to said at least one complementary nucleotide and an extension product that includes said at least one complementary nucleotide hybridized to said template nucleic acid sequence.

The teachings of Schmidt et al. anticipate the limitations of the claims.

The response argues that Schmidt et al. do not disclose a method in which a single extension product that includes a 3' cleavable tag is produced, rather Schmidt et al. disclose producing a plurality of extension products of different lengths. However, the specification does not define "a single extension product". Any individual extension production within the plurality of extension products is interpreted as a single extension product.

The response discusses the paragraphs 1, and 4-5 on page 46, and the last paragraph on page 45 of Schmidt et al. to indicate that the method of Schmidt et al. requires separating the individual component fragments prior to the cleavage of the mass label. However, the instant claims do not recite determining a nucleic acid sequence without a separation step prior to the cleavage of the mass label. The instant claims recite "said method comprising". The language "comprising" is interpreted as including other steps such as a separation step.

Based upon the analysis above, the rejection is maintained.

2. Claims 29-30 and 32 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. (WO 99/02728, issued January 21, 1999) as applied to claims 21-28, 31, 33-34 and 42-43 in further view of Singh (6,514,700, issued Feb. 4, 2003).

The teachings of Schmidt et al. are set forth in section 1 above. Schmidt et al. do not disclose that the cleavable tag is a fluorescent tag and it is acidic or basic cleavable.

Singh disclose a cleavable tag which is a fluorescent tag (see column 4, lines 27-30) and it is acidic or basic cleavable (see column 9, lines 9-12).

One of ordinary skill in the art would have been motivated to apply a fluorescent tag as a cleavable tag which is acidic or basic cleavable because the method of Singh is used in performing simultaneous determinations in a single container (see column 3, lines 54-55). It would have been prima facie obvious to apply a fluorescent tag as a cleavable tag for nucleic acid sequencing and it is acidic or basic cleavable.

Since the response does not have specific argument for the rejection, with the same reasons the rejection is maintained.

#### **Summary**

3. No claims are allowed.
4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joyce Tung whose telephone number is (571) 272-0790. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth R Horlick/  
Primary Examiner, Art Unit 1637

/Joyce Tung/  
Examiner, Art Unit 1637  
December 1, 2009